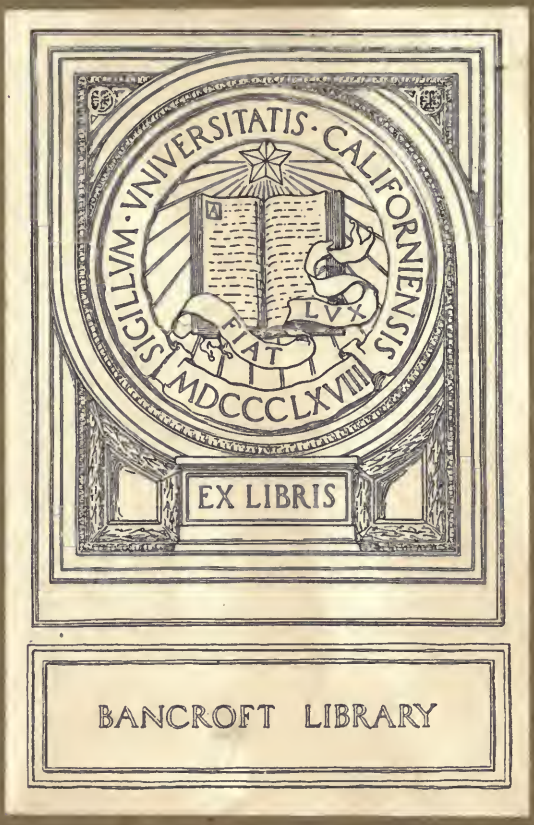

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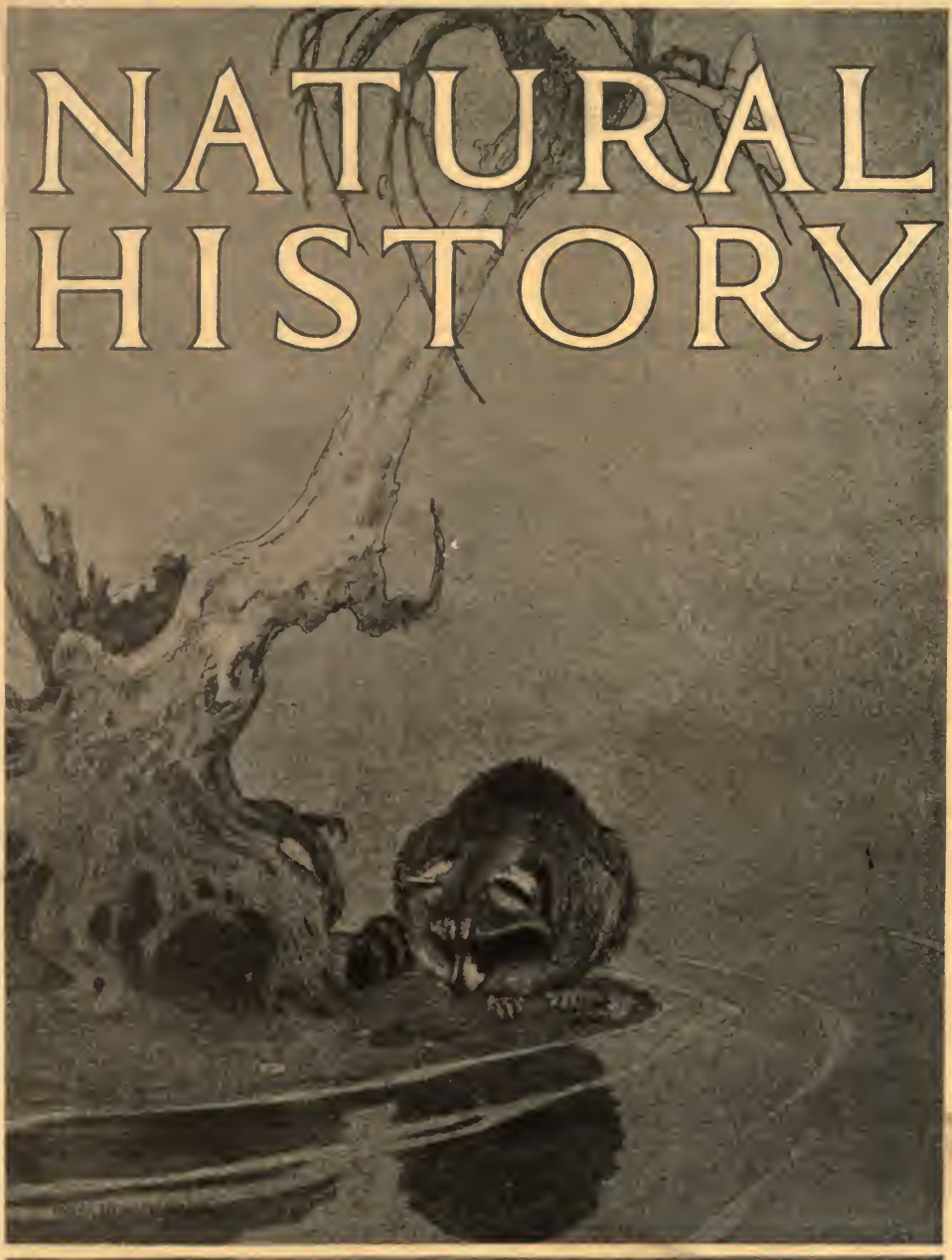

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To my friend
President Henry Fairfield Osborn
from
Carl Lumholtz

Bancroft Library

NATURAL HISTORY

VOLUME XXI MAY–JUNE, 1921 NUMBER 3

MY LIFE OF EXPLORATION

BY

CARL LUMHOLTZ

FOREWORD.—In the accompanying pages we have a unique contribution from a man who is a charming writer and above all a great explorer. This autobiographical sketch was prepared at the request of NATURAL HISTORY and with a deal of modest embarrassment on the part of the author. Its charm lies in that in the writing of it Dr. Lumholtz took the same objective, discriminating view that characterizes his travel narratives. Later explorers following in his footsteps have often testified enthusiastically to the skill and exactness of Dr. Lumholtz in hitting upon the outstanding features of each new environment encountered and his ability to convey these snapshots to the reader with few words. One thus gets the feel of the country from the printed pages. So when one reads the following narrative he obtains in retrospect characteristic glimpses of a career occupied above all with five major expeditions, each of which has added greatly to our knowledge of the remote corners of the earth. The collections and data from two of these great expeditions were deposited in the American Museum. It has often been said that one of the greatest gifts and the rarest is the genius for exploration; however that may be, there can be no doubt as to the genius of Dr. Lumholtz.—CLARK WISSLER.

AT school as a ten-year-old boy, I found the lessons about beasts and birds of the most absorbing interest. At that time not much attention was given to natural history in the schools of Norway and I was sorry after a short time to have to give up the study of animals for that of Latin and Greek. However, I later received some instruction in botany and learned how to collect plants, and during the last years of my school days I devoted almost every afternoon in the season to such collecting. In that way I made a fairly representative herbarium of the phanerogam flora of inland Norway, which some years later was presented to the Kew Gardens near London.

In taking my second degree at the University of Christiania I naturally chose the branches of natural science. I was particularly interested in zoölogy, which attracted me more than botany ever had. It was the desire of my father, who was a captain in the Norwegian army, to make a clergyman of me and, being of the old school, he did not see much value in the study of zoölogy. As theology did not appeal to me nor the position of clergyman in a state church barring the attractiveness of the farm with which he is provided, and as under such circumstances I could not make up my mind what course to pursue, I accepted a position as teacher in a private family in the country and continued in that capacity for over a year and a half. Finally I decided to meet my father's wishes and study theology. The great naturalist, Michael Sars, father of the present Prof. G. O. Sars, of the University of Christiania, was a country parson at the time he made his startling discoveries of animal life in the deep fjords of Norway and at times I thought perhaps there might be a similar opening for me, through the gates of theology, to cultivate what was according to my inclination.

I took my degree in theology but it had already become perfectly clear to my mind that I should never be a clergyman. To secure my degree I had had to work sixteen hours a day for several months; this strain brought on a nervous breakdown, which, however, unexpectedly turned to my benefit. To regain the stability of my nerves I now de-

voted myself exclusively to the collecting of birds and animals and to a study of their modes of life. The specimens secured I sent to the zoölogical museum of the University of Christiania and I always felt happy when Professor R. Collett's letters of acceptance arrived with some remarks about the specimens sent.

In the summer I made tours, always alone, up to the mountains in the central part of Norway, and how wonderful it seemed to be in touch with nature again! Never shall I forget how beautiful some clumps of small mountain willows looked one early morning as I passed through them in the enchanting summer light of the northern countries. After a rainy night, newly formed pools reflected the brilliant sunlight in which the leaves of the willows fairly seemed to sparkle. There was enrapturing freshness in the landscape, which was high above the usual abode of man. The beauty of nature took hold of me and I felt my freedom from the confinements of metaphysics and scholasticism. I was overcome by emotion and wept from joy.

The winter was no obstacle to my enthusiasm for zoölogy. The skiis, in themselves a wonderful stimulant to a love of nature, carried me far away into the hills and ranges surrounding Lillehammer, my native town in central Norway, famous for the natural beauty of its environment.

Love of nature took stronger and stronger hold of me and one day it occurred to me what a misfortune it would be to die without having seen the whole earth. I could hardly endure the thought which haunted me. There seemed very small prospect of my being able to realize my ambition because we were a large family and, although we were all very well brought up, my father had no fortune to speak of.

One day, however, Prof. R. Collett proposed to me that I should go to Australia to collect animals and birds for the zoölogical museum of the university. I was elated at this suggestion. It was arranged also that the various museums of the university make contributions toward the expenses of my proposed expedition. One of the best Norwegian sailing vessels, bound for South Australia with a lumber cargo, took me aboard as a guest, and after a hundred days of sailing we came to Adelaide. From here in due time I arrived at Gracemere, a cattle station near Rockhampton, Queensland, where the owners, Messrs. Archer, who were Norwegians of Scottish descent, had invited me to make my headquarters as long as I liked.

After I had collected at this station for a few months, an opportunity came to accompany a wagon driver who was going to take provisions four hundred miles inland to Minnie Downs Station, which my friends also owned, on the Barcoo River. Here I spent some time collecting. Not far from the house, in the dry creek, a certain fossil shell was found in abundance; it was a gigantic *Inoceramus* from the Cretaceous period and turned out to be a new species (*giganteous*).

Riding one horse and leading my pack horse I continued my journey alone westward to the Diamentina River, usually staying for a night at some sheep or cattle station, where hospitality is always extended to the traveler. I had a burning desire to continue the trip right to the Gulf of Carpentaria, but on the Diamentina River I contracted disagreeable wounds on the lower part of my legs, the result of bites inflicted by fleas living on the ground. This infection troubled me for several weeks, affecting my whole body, and finally obliged me to return to the coast.

Mr. Walter J. Scott, a great "squatter" whom I met in Brisbane, had been kind enough to invite me to stay at Herbert Vale, an abandoned cattle station which he owned on the Herbert River in Northeast Queensland, about 18 degrees south latitude. He had moved his station up to the highland

about a hundred miles westward, but good buildings had been erected at the original place and he had left an old man in charge. Here I might make my headquarters as long as I desired. It was a very tempting offer and, as soon as circumstances permitted, I found myself at the deserted cattle station on the Herbert River.

I at once sought the natives, who were prowling about in the neighborhood and who would come to the station every time we killed a bullock in order to secure the offal. These were so-called "civilized" blacks, that is to say, they had picked up a few words of English and had learned to smoke tobacco, of which these aborigines are inordinately fond; they were ambitious to secure such ornaments as a cast-off shirt or, better still, a hat,—to their mind the principal distinction between a white man and a black. These savages, with very few exceptions absolutely nude, who seemed to fit so well with their surroundings, at once attracted me, and on my daily excursions into the neighborhood, proved to be good companions.

The coast range not far away, at an elevation of four thousand feet, seemed always to beckon to me so invitingly; there ought to be rare, probably new, species of animal life in the dense jungle of that lonely range. But how to get there when the blacks of that region were reputed to be "bad"? After a while I decided on a bold undertaking, to camp and travel with these aborigines alone. I felt that surely they would help me to find animals hitherto unknown to science. As far as I know, no white man has ever attempted to camp alone with the wild natives of Australia; the first warning the colonists give you is, "Never have a black fellow behind you." My daring was, however, richly rewarded by the finding of new species of mammals, by the insight gained into the life of primitive man, and by the intense interest derived from real touch with nature.

Courtesy of Charles Scribner's Sons.

Native Australians from Northeast Queensland with their characteristic wooden clubs and shield. A wooden sword is on the ground

This sojourn for the better part of a year in the coast range near Herbert River became, in fact, the opening chapter of my life as an explorer. Thus far I had been a zoölogist. My life, however, among the blacks of Northeast Queensland awakened my interest in primitive man, and since then native races have been my life study.

From my headquarters I usually took along a dozen or more pieces of mildly salted and dried beef, some flour, and a small quantity of sugar, but as these provisions were quickly consumed because I was obliged to share them with my men, who were very fond of them, I also secured from my men the food that the natives use. There is a vine growing in that jungle that has a comparatively large root, which is excellent eating when roasted, but unfortunately it is rather rare. As for the rest of the vegetables that the blacks in those parts of the country use, they are very unattractive. Some of them in their natural state are actually poisonous, and have to undergo a process of heating and soaking in water before they may be eaten.

An Australian black fellow climbing a gum tree by the aid of a vine cut from the jungle. With the left hand he holds on to a notch in the vine and, after looping the tree with the free end, winds that end around his right arm. By flipping upward his rope-like support, he skilfully ascends

In respect to meat I was somewhat better off. The large lizards should not be despised, but the flesh of snakes was dry and practically unfit as food, though the liver is as pleasing to the taste as that of chicken. I often ate the animals and birds I skinned, but most of them were unpalatable. The meat of the tree kangaroo (*Dendrolagus lumholtzii*), which I had the pleasure of discovering, was, however, really attractive in taste, reminding one of game; this is very far from being the case with the meat of the ordinary kangaroo or of the wallaby. My favorite dish was the larva, eaten toasted, of a large brown beetle; the larva is found in decaying acacia trees. Contrary to what one expects the Australian native cooks his food well, and if there is the slightest indication of the meat smelling, he throws it away. He does not know the use of salt.

The curious "incubating" habit of the "brush turkey" (*talegalla*), which deposits its eggs in large mounds, there to be hatched by themselves, now and then offered us a chance of sitting down to a really good meal, for the eggs are large and very tasty. From the natives I learned the use of honey, which since then never has been missing on any of my expeditions. It makes a wholesome and pleasant drink and is rich in vitamines.

Every evening the blacks at my request made a hut of branches, which was rather low but long enough to enable me to stretch out at full length, an opportunity for relaxation which the natives are never particular about. If it looked like fine weather, my men did not even trouble to make any hut for themselves. Their one preparation for a comfortable rest was, by the aid of a stick and their fingers, to make a hole in the ground big enough to fit the hip. To keep warm in the night three or four would sometimes huddle together, absolutely nude and without any cover whatsoever.

A very important part of my outfit was tobacco, which served me instead

of money; for tobacco they would do anything. In Australia the "weed" imported from America could be purchased as plates of the strong "nigger-head" variety and, when about to be used, was broken up in sticks of the size of a finger. Clay pipes were also taken along, for the tobacco is never chewed by these natives. They were well satisfied with a small bit but had to be paid for any services, however trivial, that they did.

Next to tobacco my gun exercised great powers over them though I always had to bear in mind that missing my aim even once would mean a dangerous reaction in their estimate of the white man's superiority. During the latter part of my stay, whenever I found the behavior of my men less satisfactory, in the evening just before going to bed I would fire a shot from my revolver, which they called "the gun's baby" and for which they had a wholesome fear. It reminded them of my superiority. Not one word more was said. It was like my "good night" to them.

We naturally slept around the same fire, which at first they insisted upon making small in order that their enemies should not discover their whereabouts. It was a very fortunate circumstance for me that in the winter time when I began this camping life I used to feel cold at night in spite of the fact that I had brought along a blanket. I had to rouse my lazy black fellows and induce them to secure more wood for the fire. By being disturbed in this way they got it into their heads, as I later discovered, that the white man slept but little and always had the "baby" ready.

I had one friend among the savages, a young black fellow called Yokai, who took a singular interest in the white man, helped me to gather men for my expeditions, and evidenced a certain attachment to me. He loved tobacco and all the things I had seemed to interest him; nothing made him as happy as to be allowed to make *damper*, the bread of those who rough it in Australia, consisting of flour and water and cooked in the hot ashes. To him no doubt I owed my life, as he on one occasion said to me "it was no good killing the white man." He was remarkably naïve and often blurted out information about the other blacks which was of the greatest value to me. Nevertheless, I felt that if matters were brought to a crisis, I could not depend even upon him, for the Australian blacks are like big children. I never knew when he might be persuaded by his elders to allow them to kill me, which they most likely would have done by smashing my head with a stone during the night.

My little supply of tobacco, my shirts, and above all my white blanket were objects of envy to my men, and in consequence there was a constant temptation to kill their possessor. One reason why the blacks became very dangerous was that one of my own blacks had killed a lone white man who was attempting to reach the highland by walking. I exerted myself to have the murderer punished and the blacks all turned against me.

I always treated them justly and I did not feel called upon to shoot any of them; in fact, I have not as yet shot any man. My friend Yokai reproached me for being too kind. "You are not angry enough," he once said. "Shoot them, shoot plenty," he added.

There was nothing else to do but to return to civilization and I was truly glad when I arrived with all my collections at the sugar plantation on the lower part of the Herbert River. I had discovered, in addition to the tree kangaroo above mentioned, three other mammals. I was close on the track also of another animal, a large, carnivorous marsupial which the natives called *yarri*. This animal still awaits discovery. That it really exists I do not doubt, because in such matters the natives are to be depended upon.

The first three months of my camping

life with the natives of Australia are the most interesting, I might almost say fascinating, time I have had. I was then at the zenith of my power and it is, of course, pleasant to be the first, even among admiring savages. My whole sojourn, covering many months, with the men of the Stone Age was, however, an experience I am glad to have had.

The senses of the Australian blacks are superior to ours, their eyesight extraordinarily so. As he walks through the jungle, this savage man will constantly, without stopping, scoop up a handful of the soil and smell it, to ascertain whether some animal has passed that way or not. On the trunks of the trees there is always seen a bewildering number of claw marks left by different animals, for most of the animals of that region live in trees. He reads, as in an open book, what kind of animal ascended that tree the night before, and whether it is now up in the hollow of the trunk.

The most interesting scene I have witnessed during the many years spent with natives of different countries was the annual settlement of disputes, in use among the blacks of Herbert River. It is called *bôrbobi* and is, in fact, dueling conducted on a large scale, several pairs fighting at the same time by throwing boomerangs and clubs, then spears, and ending by pounding each other with the heavy wooden swords used in Northeast Queensland. Huge shields are used for protection. On the occasion I attended one man was mortally wounded by a spear which actually went through the shield and into his stomach.

After having written a book on Australia[1] I went to the United States to lecture on my unusual experience and also with the hope of being given an opportunity to make researches among the primitive men of the American continent. My lectures created considerable interest and as early as the autumn of 1890 I was able to realize my project of exploring the northern part of the Sierra Madre, Mexico, conducting an expedition under the auspices of the American Museum of Natural History and the American Geographical Society. Professor W. Libbey of Princeton University joined the party and as we were about to enter a little-known region, I thought it advisable to take along a few collectors in the domain of natural history.

Starting from Bisbee, Arizona, in September, I entered Mexico through San Pedro, traveling in a southerly direction through Sonora and then turning eastward up into the Sierra Madre at Nacori. From here on to Casas Grandes in Chihuahua we had to make our own trail, which was done successfully in spite of the fact that it was winter and the size of my party considerable. With nearly a hundred animals—mules, donkeys, and horses—we crossed the Sierra Madre, at times camping in the snow. To this day our trail has remained the commercial road between the States of Sonora and Chihuahua.

Arriving at the Mormon colony, Pacheco, on the eastern slopes of the Sierra, we found some very interesting old cave dwellings to explore. Later on we settled on the lowlands of San Diego, where for many months excavations were made of several large mounds that covered house groups. We unearthed about five hundred pieces of beautiful pottery.

Among the fifty-five mammals secured on this first expedition to Mexico was a superb-looking red squirrel of the high Sierra, which received the name of *Sciurus apache*. Our botanical collectors, Messrs. C. V. Hartman and F. E. Lloyd, found themselves in a hitherto neglected field and their labors were rewarded with the finding of twenty-seven new

[1] An account of my Australian travels of four years was published in several languages,—the English edition *Among Cannibals*, by John Murray, London, 1889, followed a little later by the American edition, under the imprint of Charles Scribner's Sons, New York. The French edition, *Au Pays des Cannibals*, was published by Hachette et Cie, Paris.

Courtesy of Charles Scribner's Sons

Although the majority of the Tarahumare Indians live in simple shelters, usually made of rough pine boards leaning against each other, they all love caves. Many families go to the caves for a change of domicile, others live in them permanently. In fact, these Indians may properly be called the cave dwellers of the America of today

species of plants, some of them of much importance.

After an absence of some months in the United States I returned toward the end of the year to my camp at San Diego, and in January, 1892, with a much reduced force began my second expedition to Mexico, ascending again the Sierra Madre and following it southward.

At Tutuhuaca we met with a new species of pine (*Pinus lumholtzii*), which is very ornate on account of its slender, whiplike branches and its long, hanging needles. Later we often saw it growing in groups at high altitudes on decomposed volcanic tuff.

For one and one-half years I traveled in the extensive and picturesque country of the Tarahumare Indians, the great tribe of the State of Chihuahua. In order to save expense and to concentrate my efforts on ethnological research in the interesting region in which we found ourselves, I dispensed after a few months with my assistants, Mr. C. H. Taylor, civil engineer and photographer, and Mr. A. E. Meade, mineralogist. Mr. Hartman remained a few months longer as assistant in ethnology. Finally, however, I conducted my investigations alone, following the wild (so-called *gentiles*) Indians into the distant retreats in the deep cañons for which the States of Chihuahua and Durango are famous.

The Tarahumares are timid, honest, and bashful people, their habits and customs often being singularly interesting. Their dances, a kind of religious exercise, have been minutely described by me. A dancing place is found near all dwellings and on it is raised a small wooden cross to which to dance, and which represents a man with arms outstretched, Father Sun, the perfect man.

By selling most of my animals and a large part of my outfit and through the untiring efforts of two American ladies whose friendship I highly esteemed, I was enabled to continue these researches until August, 1893, when I took my Tarahumare and Tepehuane collections to Chicago and exhibited them at the World's Fair. Extensive vocabularies of the Tarahumare and Tepehuane languages as well as a vocabulary of the now almost extinct Tubares were among the results of this expedition, besides

Courtesy of Charles Scribner's Sons

BARRANCA DE SAN CARLOS IN CHIHUAHUA

It may be compared with the Grand Cañon of the Colorado so far as depth is concerned, and the sides are steeper, but the latter excels in extensive and picturesque views. The present picture, showing one of the author's carriers, a Tarahumare Indian, in the foreground, was taken in the upper part of the cañon, which is not as deep as the lower part

anthropological measurements, samples of hair, and osseous remains.

The great possibilities Mexico offers to ethnology proved an irresistible incentive to new researches, and seeing the results of my previous expeditions, the American Museum of Natural History of New York again sent me out on what was to be my third and most extensive Mexican expedition, lasting from March, 1894 to March, 1897. During these three years I again traveled alone, that is, without any scientific assistants. I had with me at first two or three Mexicans; soon, however, I found that my best companions were the so-called civilized Indians, or even Indians in their aboriginal state, who not only helped me by their mere presence to win the confidence of their tribesmen but also served me as subjects of observation. As before, I stopped for months with a tribe, discharging all alien attendants, and roughing it with the Indians. In this way I spent ten months among the Coras and Huichols. At first the natives persistently opposed me; for Indians are very distrustful of the white man, and no wonder, since he has left them little enough and they are therefore forced to guard that little the more vigilantly. I managed, however, to make my entry into their midst and gradually to gain their confidence and friendship, mainly through my ability to sing their native songs and by always treating them justly.

All along my route I gathered highly valuable material from the Tarahumares, the Northern and the Southern Tepehuanes, the Coras, the Huichols, and the Tepecanos,—all of which tribes except the last-named dwell within the Sierra Madre del Norte; also from the Nahuas on the western slopes of the Sierra, as well as from those in the States of Jalisco and Mexico; and, finally, from the Tarascos in the State of Michoacan. Of most of these tribes little more than their name was known, and I brought back large collections illustrating their ethnical and anthropological status, besides extensive information in regard to their

Huichols of the author's party crossing a swollen torrent on a bridge of their own construction

HUICHOL BOY

Raising maize and hunting the deer, as well as frequent participation in religious ceremonials, occupy the time of youths as well as men among this mountain people

customs, religion, traditions, and myths. I also completed my collection of vocabularies and aboriginal melodies.

Especially fruitful in results was my stay with the Huichol Indians. These Indians had been known mainly to a small number of Mexican half-breed traders and I was the first white man to visit them. The country was difficult of access and Mezquitic, the little town from which the tribe is reached, is distant three or four days' journey on muleback. The isolation of these Indians on a tall spur of the Sierra Madre had been their salvation and I found them living practically in the same state of culture as when Cortez put foot on American soil.

They had their temples and sacred caves, which were filled with symbolical objects of singular interest, thus throwing light not only on the cultural status of a barbarous tribe but even on that of their far more advanced kinsmen, the Aztecs. When my friend, that great ethnological genius, the late Frank Hamilton Cushing, saw the exhibition of my Huichol collection at the American Museum of Natural History, he exclaimed, as he let his eyes pass over the richly laden tables of the room: "This is like seeing a new species of man."

Of the ethnological results gained during my travels in Mexico I consider the information which was collected about the anciently well-known *peyote* (*lophophora*) among the most important. It is a well established fact that this little cactus when partaken of exhilarates the human system, allays all feeling of hunger and thirst, and produces color visions. In the Huichol tribe this highly interesting plant cult reached its greatest development. The Tarahumares also worship this plant.

In order to collect *hikuli*, as the cactus is called, a pilgrimage lasting forty-three days is annually undertaken into the State of San Luis Potosi.

Of late years the *hikuli* cult has, strangely enough, been adopted by certain tribes in the United States and well meaning people are trying to stop this on the ground that it is a kind of debauche. Nothing could be farther from the truth. By all manner of means prevent the Indians from getting the white man's brandy, which ultimately and surely ruins them, but *hikuli*, or *peyote*, is an entirely different matter.

As far as my experience goes, the partaking of *peyote* is not injurious to health; besides, the cult is observed only during a limited season of the year. The effect of the plant on the nervous system is very different from that of alcohol; the balance of the body is even better than

Courtesy of Charles Scribner's Sons

A flower (*Œnothera trichocalyx*) of the desert. It usually makes its appearance along the courses of the dried-up creeks

The author's pack train wending its way through the Sonora desert. The sand dunes owe their graceful outlines to the shaping force of the winds

under normal conditions. There is nothing vicious about the *hikuli* cult. Abstinence from sexual intercourse is imposed on its devotees and a marked effect of the plant is temporarily to take away all sexual desire.

On my journey through the Tierra Caliente of the Territory of Tepic, and the States of Jalisco and Michoacan, I obtained a number of archæological objects of great historical value and importance. Among the antiquities secured may be mentioned a beautiful jar in the shape of a turkey, strikingly ornamented with thin gold plates. Furthermore, a number of large terra cotta figures were found in a subterranean chamber near Iztlan representing ancient Tarascan culture. About three hundred skulls of Mexican Indians were collected in the course of my first expeditions to the republic. These were all described years ago in a scholarly work by Dr. A. Hrdlicka. The publication of this important work has thus far been impossible through lack of funds but it is to be hoped that such funds may be provided for the purpose in a not distant future.

In 1898, accompanied by Dr. Hrdlicka, I revisited the Tarahumares and the Huichols. In 1905, I alone visited the Huichol and Tepecano Indians. My observations of the latter tribe have not yet been published.

In 1909–10 I made my last expedition to Mexico, traveling in the Sonora Desert and the southern part of Arizona, a fascinating country in spite of the arid conditions prevailing there. The wonderful colors of the late afternoon, the glorious sunshine, the peace and calm of night, and the thrills that accompany early dawn are sources of constant delight to the traveler. The extraordinary adaptations of plant and animal life, even the domestic animals of Indians and Mexicans subsisting without difficulty for months without water, cannot fail to interest the observer. With the exception of the Seri and the Pima Indians, the natives of the desert had so far received little attention from those engaged in the study of primitive races. The Papago are the great desert people of America and are remarkably stable in their racial characteristics, still preserving the traditions and habits of the past, which soon will disappear.

I was fortunate in being able to describe their harvest festival and in other ways to give an insight into their

A drinking pool in the Sonora desert. In the cavernous depressions, known as *tinajas*, of the lava formations, water is also obtained

tribal life. It is well authenticated that the tribe knows a cure for hydrophobia and, in order that the secret shall not die with the tribe, I may take this occasion to state that the main ingredients of the medicine are certain excrescences, of wonderful antiseptic quality, found on the greasewood (*Covillea tridentata*), the humble but very attractive bush of the desert.

My researches in Mexico and the Southwest, extending from Casa Grande, Arizona, down to west of the City of Mexico, thus covered a period of nearly eight years, six and a half of which were spent among the Indians of those regions.[1]

Ever since my adventurous life among the blacks of Northeast Queensland it had been my desire to explore New Guinea, the largest island on the globe, and among the least known regions thereof. In 1914 it really seemed that I was on the point of realizing the dream of my youth. I found myself in Batavia, Java, about ready for the start eastward to New Guinea. It was a Norwegian Expedition, which had the support of their Majesties, the King and the Queen of Norway; the Norwegian Geographical Society, the Royal Geographical Society of London, and the Royal Netherlands Geographical Society, each made a contribution to my funds, which, besides, were increased by American and English friends. With the outbreak of the great war, however, my plans suddenly had to be changed. His Excellency, the Governor General of the Dutch Indies, Mr. A. W. F. Idenburg, regretted his inability to give me a military escort and other assistance for carrying out my plans, and advised me to await a more favorable opportunity. As I had never been in British India, I decided to go there while awaiting developments. In India I studied Hindu religions, a fascinating occupation, but after eight months spent there I decided to return to the Dutch Indies and undertake an expedition to Central Borneo, parts of which are unexplored and un-

[1]My publications on Mexico are, besides minor articles:

Unknown Mexico, in 2 vols, illustrated, Charles Scribner's Sons, New York, 1902.

New Trails in Mexico, illustrated, Charles Scribner's Sons, New York, 1912.

Symbolism of the Huichol Indians, Memoirs of the American Museum of Natural History, 1900.

Decorative Art of the Huichol Indians, Memoirs of the American Museum of Natural History, 1904.

Courtesy of Charles Scribner's Sons

The floor of the desert sometimes rivals the "ribbed sea sand" in its minute sculpturing. Such wavy lines owe their origin to the action of the wind. The scene is of the desert northwest of Pozo del Caballo, Sonora

known to the outside world. The Governor General with the greatest courtesy assisted me in furthering my project, and gave me a small escort of six Javanese soldiers under the command of a Dutch lieutenant. An excellent native surveyor was attached to the expedition and for part of the time one of the government's photographers.

The journey through central Borneo, which consumed nine months, was successfully made. There are no roads in Borneo, all communications being by water, the large rivers enabling the traveler to ascend far inland. Numerous rapids, often very difficult to conquer, have to be passed. In the central part of the great island, the absence of life—in other parts abundant—was very striking. The only birds that you might hear or see were the great hornbill, the sandpiper, and a kind of kingfisher. No more fish were caught in the rivers; there were not even mosquitoes, hence there is no malaria in the interior. As for human beings, large tracts of the inland country are uninhabited.

There was no change, however, in the exuberant richness of the tropical vegetation. As we ascended the Upper Busang River, the scenery was often beautiful beyond words; silence reigned supreme. It was like having a pleasant dream.

I extended my travels to other parts of the great island and thus spent the better part of two years among its very interesting natives. They form many different tribes, which, however, present many similarities and are therefore included under the general name of Dayaks. Some of the tribes I met with had never been studied before. I may, perhaps, not be accused of being immodest in claiming the credit for having been able to put the head hunters of Borneo in the right light before the civilized world.

My researches prove that this very repulsive and extraordinary custom of taking heads is not due to particular viciousness on the part of those who practise it, but has its foundation in their vivid realization of a life after this; in fact, to the Dayaks, as to many Oriental people, there is no essential difference between this life and the next.

At the very moment that a Dayak cuts off the head of a man belonging to another tribe, his soul conquers that of the departed, who becomes his slave. If that head, or in other words the soul residing in it, is treated well, it becomes a friend and guardian of the tribe. Such a head protects against the evil spirits and even insures material benefit. This is in a few words the idea underlying head hunting.

An important medicine man of the Huichols and his wife. Girdles and pouches like those worn by the man are woven by the women, the designs often being astonishingly artistic. The pouches are for ornament, not for use. The object on the head of the man is not a cap but a woven ribbon used for binding the hair

A medicine man of the Huichols beating his deer-skin-covered drum. The drum plays an important part in many of the ceremonies of this people. The curious easy-chair in which he is seated is of native manufacture and is reserved for the important members of the tribe, such as temple officials and medicine men

Farther up the river men of the Kenyah tribe of Borneo have been beating the roots of the *tuba* vine to free the poisonous juices therein contained. These juices, mingling with the waters, stupify the fish and thus make possible their capture. In the picture women of the tribe are seen with hand nets held in readiness to scoop up the fish that are being carried along helpless in the current

Sections of bamboo stalks are used as containers for rice or for pork, important items in the diet of the Dayaks. A little water is added but no salt. As long as the stalks are green, they resist burning. Rice cooked in this way has a sweet, delicious flavor

The long-nosed monkey (*nasalis larvatus*) is peculiar to Borneo. These creatures are sometimes found in groups of a hundred or more travelling through the forest by swinging from branch to branch

These "wild men of Borneo" neither tell lies nor steal. To appropriate the property of another is a thing they take good care not to do, for a thief in the next life will be seen carrying around on his back all the stolen goods, thus exposing himself to ridicule and contempt. The Dayaks are hospitable, generous, and loyal. During the two years I traveled among them I never once observed children quarreling or fighting.

The results of my journey were very satisfactory. Vocabularies of many tribes were studied and collected; anthropometric measurements were taken and much new information gathered about the habits and customs of the natives. I brought back material for several treatises, especially in regard to the decorative art of the Dayaks and also concerning a much developed protective system which certain tribes possess in carved wooden figures called *kapatongs*.

Skins of mammals and birds were secured, as well as specimens of fishes and reptiles in alcohol. So far only the mammals have been examined; these yielded one new species and two new subspecies.

It is a curious fact that both among the Chinese and the Malays individuals are met with who are thoroughly convinced of the existence of brown men with short tails. Many will tell you that they themselves have seen them. I was able to collect from the Dayaks the legend of the tailed men, which may be found in my book on Borneo.[1]

The Great Archipelago in which I found such a remunerative field for my efforts appeals to me more than any other part of the earth which I have visited. In its humid and warm climate I thrived, feeling, in fact, better there than here. The great possibilities of discovery in those distant islands fascinate me now as they did when I

Courtesy of Charles Scribner's Sons

The Manx cat is not the only one with a rudimentary tail. In Borneo there is a domestic feline that is either stub-tailed or with a ball at the end of its exceptionally short caudal appendage

was in Australia. I have decided to devote the rest of my life to science, to visit little known or unknown parts of the earth with the hope of increasing our knowledge from a geographical and anthropological point

[1]An account of my exploration of Borneo is given in *Through Central Borneo—Two Years' Travel in the Land of the Head Hunters*, Charles Scribner's Sons, New York, 1920.

From a cinematograph showing a Penyahbong of Central Borneo gracefully executing a war dance practised by many Dayak tribes. Before seizing his sword and shield and indulging in the more violent movements of the dance, he went through the preliminary of exercising all his flexible muscles. His motions were lithe as those of a serpent

of view and also with the expectation of making further contributions in the field of natural history.

I am more than ever interested in carrying out my New Guinea project, which was so unexpectedly thwarted by the outbreak of the war. No country offers such rewards to the intrepid explorer as New Guinea, the largest island on the globe, lying just to the north of Australia with which it was once connected.

In 1920 I went abroad in the hope of securing in Norway the necessary funds for this the greatest of all my undertakings. If I had come one year earlier, I should have gotten all the money needed, and more, my friends assured me, but the great financial depression which had then begun to manifest itself in Norway made it impossible to secure more than a small part of what was needed. It must be said that my countrymen did all that they could to further my purpose in which they are intensely interested, but "*Ultra posse nemo obligatur.*"

I am now trying to get the necessary support in the United States for an enterprise that cannot fail to give the valuable results desired and which may prove of direct benefit to civilization by the discoveries I expect to make. This is not the place for a detailed account of my plans, which I shall always be most happy to furnish to anyone interested in the matter, but may I not be allowed in a few words to state the object of my proposed expedition?

I intend to cross New Guinea from south to north at its broadest point, having chosen a route where no white man has ever been before me. We shall have to cross at an elevation of 10,000 feet the great Snowy Range, whose highest measured peak is 18,000 feet. From the time when I shall have established my headquarters at the foot of the range until I am able to emerge on the north coast of the island, one year will have elapsed. The backbone of

The artistic ability of the Dayaks expresses itself in carving rather than in music. Nevertheless, they have musical instruments, the chief of which is here represented. Its notes are rather pleasant

my expedition will be 175 Dayaks, who will be brought to New Guinea from Borneo. They are to be our carriers, builders of boats and of houses. I shall have two taxidermists and a botanical collector; an experienced geologist, whom I hope to secure in the United States, will be an important member, for this great island is of particular interest to geology, which here will find the solution of many of its most important problems.

For many years I have studied the food question, and there need be no fear that beri beri or kindred diseases will attack the expedition.

Among people who know, it is the universal verdict that no region offers such inducements for exploration as New Guinea. We expect to meet natives that have never seen a white man. Whenever a collector has gone up a hitherto unvisited river in New Guinea, he has invariably brought back new species of birds of paradise, and without any doubt we, too, will discover new species of these most gorgeous creatures. We are confident, too, of coming upon new species of mammals, some, maybe, of considerable size. Superb butterflies and interesting land shells may be expected. Botany will naturally gain much that is novel. In geology, specially valuable results may be anticipated, and we are likely to find new minerals.

Thus we may hope to make a valuable contribution to the history of the earth, as well as to our present knowledge of the mineral, plant, and animal kingdoms. Some of our discoveries may even prove of great economic value.

A tame horn-bill that often came to roost on the author's tent. The Dayaks refrained from laughter, no matter how ridiculous were the antics of this bird, for they hold the belief that those who laugh at animals will be stricken with illness